COMPUTER RED-LINED VERSEION

For Preliminary Amendment date April 1, 2003

IN THE CLAIMS

Replace claims 1 through 20 as follows:

Replacement claim 1

1. A method for the detection of a symbol ~~form~~from a received signal wherein the symbol is a selected symbol out of a predetermined set of symbols, wherein each symbol of the predetermined set is a ~~CCK~~ symbol comprising a sequence of chips wherein each of the chips is PSK-modulated according to a selected modulation code wherein each of the selected modulation codes comprises a first sub-modulation code which is a selection from a plurality of first sets of predetermined phase modulating elements and a second sub-modulation code which is a selection from one second set of predetermined phase modulating elements wherein at least one of ~~said~~the predetermined phase modulating elements of ~~said~~the second set is a complex value~~, such as defined in the high speed IEEE 802.11 standard, wherein a modulation code is selected from said modulation codes which correlates according to a correlation method with the received signal,~~

~~characterised in that,~~the method comprising:

~~the method comprises at least the following steps:~~

- a. correlating the received signal with each of the possible first sub-modulation codes for obtaining first correlation results and selecting a correlation result;
- b. phase-modulating the selected first correlation result with one of ~~said~~the possible second sub-modulation codes for each possible second sub-modulation code for obtaining second correlation results;
- c. selecting the maximum second correlation result from the second correlation results;
- d. selecting the symbol of the received signal ~~on the basis of a combination~~based on the first and second correlating results.

Replacement claim 2

2. A method according to claim 1, ~~characterized in that, in step a~~wherein. for each first correlation result the value of a function of the correlation result is determined and subsequently the first correlation result which provides the maximum value of the function is selected wherein the function is determined by the type of modulation of the second sub-modulation code.

Replacement claim 3

3. A method according to claim 2, ~~charaterised in that~~wherein the function is a function of the real and/or imaginary parts of the first correlation result.

Replacement claim 4

4. A method according to ~~any preceding claim, characterized in that,~~claim 1, wherein the number of first modulation results obtained in step a. equals ~~to~~ $C_1*C_2*\ldots*C_{i-1}*C_i*C_{i+1}*\ldots*C_n$ wherein C_i is the number of elements of the i^{th} first set of the first sets.

Replacement claim 5

5. A method according to ~~any preceding claim, characterized in that,~~claim 1, wherein in step b in a first substep the selected first correlation result is phase-modulated with each of ~~said~~the possible second sub-modulation codes and in a second substep real values are determined from results obtained in the first substep for obtaining the second correlation results.

Replacement claim 6

6. A method according to ~~any preceding claim, characterized in that,~~claim 1, wherein the number of second modulation results obtained in step c. equals the number of predetermined phase modulating elements of the second set.

Replacement claim 7

7. A method according to ~~any preceding claim, characterized in that,~~claim 1, wherein in step c. a predetermined phase modulating element of the second set is selected which provides the selected second correlation result.

Replacement claim 8

8. A method according to ~~any preceding claim, characterized in that,~~claim 1, wherein in step d. the predetermined phase modulating elements of the first sets are selected which provides the selected first correlation result.

Replacement claim 9

9. A method according to ~~claims 7 and 8, characterized in that step d.~~claim 7, wherein the selected predetermined phase modulating elements of the first sets are combined to obtain the symbol in the received signal.

Replacement claim 10

10. A method according to ~~any preceding claim, characterized in that,~~claim 1, wherein in step a. a first correlator bank comprising a number of correlators is used, wherein this number of correlators equals the number of first correlation results.

Replacement claim 11

11. A method according to ~~any preceding claim, characterized in that,~~ claim 1, wherein in step b. a second correlator bank comprising a number of correlators is used, wherein this number of correlators equals the number of second correlation results.

Replacement claim 12

12. An apparatus for the detection of a symbol from a received signal wherein the symbol is a selected symbol out of a predetermined ~~se~~set of symbols, wherein each symbol of the predetermined set is a ~~CCCk~~ symbol comprising a sequence of chips wherein each of the chips is PSK-modulated according to a selected modulation code wherein each of the selected modulation codes comprises a first

sub-modulation code which is a selection from a plurality of first sets of predetermined phase modulating elements and a second sub-modulation code which is a selection from one second set of predetermined phase modulating elements wherein at least one of said predetermined phase modulating elements of said second set is a complex value, ~~such as defined in the high-speed IEEE 802.11 standard,~~ the apparatus comprising correlating means for correlating the received signal with said modulation codes according to a correlation method and means for selecting a modulation code from said modulation codes on the basis of the correlation~~.~~,wherein the apparatus further comprises:

~~characterized in that,~~

~~the apparatus comprises:~~

- a first correlator bank for correlating the received signal with each of the possible first sub-modulation codes for obtaining first correlation results;
- ~~first selection means~~a first selector for selecting a first correlation result from the first correlation results;
- a second correlator bank for phase-modulating the first correlation result with one of said possible second sub-modulation codes for each possible second sub-modulation code for obtaining second correlation results;
- ~~second selection means~~ a second selector for selecting the maximum second correlation result from the second correlation results;
- a control-unit ~~comprising means for controlling~~ that controls the first ~~selecting means~~selector on the basis of the first correlation results; and
- ~~third selecting means~~a third selector for selecting the symbol of the received signal on the basis of the first and second correlation results.

Replacement claim 13

13. An apparatus according to claim 12, ~~characterized in that,~~wherein the control-~~8~~unit determines for each first correlation result the value of a function of the correlation result, wherein the function is determined by the type of modulation of the second sub-modulation code, and subsequently controls the first ~~selection means~~selector on the basis of the maximum value of the function in such a way

that the corresponding first correlation result is selected by the first ~~selection means~~selector and passed to the second correlator-bank.

Replacement claim 14

14. An apparatus according to claim 13, ~~characterized in that~~wherein the function is a function of the real and/or imaginary parts of the first correlation result.

Replacement claim 15

15. An apparatus method according to ~~any one of the claims 12-14, characterized in that,~~claim 12, wherein the number of first correlation results obtained by the first correlator-bank equals $C_1*C_2*\ldots*C_{i-1}*C_i*C_{i+1}*\ldots*C_n$ wherein C_i is the number of elements of the i^{th} first set of the first sets.

Replacement claim 16

16. An apparatus according to ~~any one of the preceding claims 12-15, characterized in that,~~claim 12, wherein the second correlator-bank comprises means for phase-modulating the selected first correlation result with each of said possible second sub-modulation codes for obtaining phase modulation results and also comprises means for determining real values of the obtained phase-modulated results for obtaining the second correlation results.

Replacement claim 17

17. An apparatus according to ~~any one of the preceding claims 12-16, characterized in that,~~claim 12, wherein the number of second correlation results equals the number of predetermined phase modulating elements of the second set.

Replacement claim 18

18. An apparatus according to ~~any one of the preceding claims 12-17, characterized in that,~~claim 12, wherein the third ~~selection means select~~selector

selects a predetermined phase modulating element of the second set which provides the selected second correlation result.

Replacement claim 19

19. An apparatus according to ~~any one of the preceding claims 12-18, characterized in that,~~claim 12, wherein the third ~~selection means select~~selector selects predetermined phase modulating elements of the first sets which provides the selected first correlation result.

Replacement claim 20

20. An apparatus according to claim 18, ~~or 19, characterized in that~~wherein the third ~~selection means~~selector combines the selected predetermined phase modulating element of the second set and the selected predetermined phase modulating elements of the first sets to obtain the symbol of the received signal.